

EXECUTIVE OFFICER'S SUMMARY REPORT  
1:00 pm., January 23, 2003  
Regional Water Quality Control Board  
5550 Skylane Blvd., Suite A  
Santa Rosa, California

ITEM: 12

SUBJECT: Report by CONCUR, Inc., and the Humboldt Watersheds Independent Science Panel: "Final Report on Sediment Impairment and Effects on Beneficial Uses of the Elk River and Stitz, Bear, Jordan and Freshwater Creeks."

### **Background**

In 2001, the State Water Resources Control Board (State Water Board) received a petition filed by the Humboldt Watershed Council, Jesse Noell, and Ken Miller (Petitioners) regarding sediment impairment and timber operations in five watersheds in Humboldt County. The watersheds listed in the petition are Elk River and Freshwater Creek, tributaries to Humboldt Bay, and Jordan, Stitz, and Bear Creeks, tributaries to the lower Eel River. Pacific Lumber Company (PALCO), a major landowner in each of the five watersheds, conducts commercial timber operations on their forestland holdings. In January of 2002, the State Water Board issued Water Quality Order (WQO) No. 2002-0004<sup>1</sup> in response to the petition, directing the North Coast Regional Water Quality Control Board (Regional Water Board) to take several actions. In WQO 2002-0004, the State Water Board:

- 1) Remanded the issues raised by the Petitioners to the Regional Water Board for consideration and "appropriate action in accordance with applicable law." (WQO 2002-0004, pp. 2, 6, 7 and 8.);
- 2) Concluded that it is desirable to expedite the establishment of Total Maximum Daily Loads (TMDLs) for the streams discussed in the Regional Water Board staff report and to take appropriate additional action to ensure that the TMDLs are implemented. (WQO 2002-0004, pp. 7 and 8.); and
- 3) Directed the Regional Water Board to appear before the State Water Board on a periodic basis to report on the actions it has taken to address excess sedimentation and other water quality problems in the five specified watersheds. (WQO 2002-004, pp. 2 and 8.).

On February 28, 2002, the Regional Water Board reviewed the State Water Board Order and directed staff to (1) expedite TMDL development in the watersheds, (2) immediately pursue water quality monitoring, and (3) require development and submission of technical information

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<sup>1</sup> In October 2002, the State Water Board issued WQO 2002-0019, which clarified directives to the Regional Water Board and required additional progress reporting.

from PALCO regarding these watersheds for application in both short and long-term regulatory activities. The Regional Water Board also directed the Executive Officer to pursue mediation among the parties affected in these watersheds, hoping to find a solution that, as a product of consensus building, would be immediately implementable and sustainable, and not be bogged down by litigation or other adversarial processes.

In response to the Regional Water Board direction in February 2002, Regional Water Board staff accelerated TMDL scheduling and monitoring requirements in the watersheds. On April 18 and 19, 2002, the Regional Water Board conducted an adjudicatory hearing in Eureka to consider whether to direct the Executive Officer to require submission of reports of waste discharge in the affected watersheds. At this hearing, the Board received documentary and testimonial evidence regarding if, where, and how the Executive Officer should exercise her authority in requesting a report of waste discharge from PALCO for conducting its timber harvest activities in the affected watersheds. At the conclusion of the April 18-19, 2002, hearing, the Regional Water Board did not give the Executive Officer specific direction on the subject of requesting reports of waste discharge. The Regional Water Board voted instead to encourage her to pursue additional Cleanup and Abatement Orders in the affected watersheds, to return to them at the May 16-17, 2002, Board meeting with progress reports on monitoring and technical information collection in the watersheds, and to encourage ongoing efforts at mediation. A Regional Water Board sub-committee consisting of Richard Grundy, Dina Moore, and Bill Massey was formed to advise and assist the Executive Officer in the mediation efforts.

After an extensive selection process, the Regional Water Board engaged CONCUR, Inc., (CONCUR), a provider of alternative dispute resolution services, to provide the mediation and facilitation services required to achieve the Regional Water Board direction. CONCUR began interviewing involved parties, and participated in a public meeting on May 7, 2002, to explain the scope and process of the mediation.

At the May 16-17, 2002, Regional Water Board meeting in Eureka, the Executive Officer reported to the Regional Water Board on staff efforts related to TMDL development, monitoring programs, and cleanup activities in the five watersheds. In addition, CONCUR reported on the mediation efforts. The focus of the mediation efforts was aimed at identifying early abatement actions which could be taken prior to completion of the TMDLs. Because of ongoing litigation in Elk River, PALCO and other parties requested that the Elk River watershed be excluded from the confidential mediation efforts, since negotiations were underway between many of the parties related to the litigation<sup>2</sup>. The mediation proceeded with CONCUR and the parties establishing a Convening Committee to determine actions which could be taken in the short-term (defined as before adoption of a TMDL), and in the long-term to positively affect the sediment-impaired watersheds. To assist in accomplishing this goal, the Convening Committee considered two tasks: developing questions for an independent scientific review panel to consider, and creating criteria for the selection and engagement of such a scientific review panel.

The Regional Water Board had noted in the various public meetings and hearings on the underlying matters that there are numerous points of dispute between Regional Water Board staff, the California Department of Forestry (CDF), PALCO, residents and other interested groups, and their various scientific advisors on the underlying causes of, and strategies to

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<sup>2</sup> This litigation now has been settled between the litigants.

remedy, the sedimentation problems in the affected watersheds. The goal in engaging the scientific review panel was to recruit an un-biased panel of nationally recognized scientists to help resolve and articulate some of the discrepancies between the various analyses and conclusions reached by the different parties. This information would then hopefully yield a set of findings and methodologies that could form the foundation of a solution that is both reasonably implementable in the short term and sustainable in the long term.

At the June 27, 2002, Regional Water Board Meeting in Ukiah, the Executive Officer reported to the Regional Water Board on staff efforts related to TMDL development, monitoring programs, cleanup activities, and mediation efforts. Regarding mediation efforts, staff reported that after meeting weekly (and sometimes twice-per-week) for four weeks, the parties had come to an impasse, and mediation was being formally suspended.

The impasse was reached over the issue of whether the scientific review panel should be asked to evaluate the effects of rates of timber harvest on sediment yield. By group design and consensus, the Convening Committee needed to reach consensus under the mediation process in order to proceed with formulation of questions to be posed to the scientific review panel. PALCO had informed the remainder of the Convening Committee that they did not agree with the scientific review panel addressing the rate-of-harvest question, either directly in response to a formal question or as a result of their independent deliberations and findings.

In response to the impasse, the Regional Water Board directed staff to proceed with convening a scientific review panel and to develop questions for their evaluation, without being constrained by disagreement between the Convening Committee members regarding what specific questions or information the panel should consider or what remedies the panel might develop. The Regional Water Board further directed staff to convert the mediation process into a facilitated stakeholder advisory process, wherein no one party could veto any idea or issue, leaving the decision of what questions should be addressed by the scientific review panel to the judgment of Regional Water Board staff after consultation with the stakeholders. The Regional Water Board directed that the stakeholder advisory process and scientific review panel selection process be conducted as quickly as possible, with a request for a preliminary report from the scientific review panel by September. The Regional Water Board also directed that Elk River now be included in the stakeholder advisory process and scientific review process since confidential mediation was no longer occurring. The five-part motion, which was unanimously approved by the Regional Water Board on June 27, 2002, stated:

1. Accept the report from the Convening Committee and express appreciation for their efforts to date.
2. Direct staff to initiate a facilitated scientific review process and a facilitated watershed-working group.
3. Direct staff to invite the members of the existing Convening Committee and representatives from Elk River to assist staff in finalizing an initial set of terms of reference and to assist in the selection of an Independent Scientific Review Panel, within 2-3 weeks, for the purpose of addressing any actions that can be initiated in the short term, in all five watersheds.
4. Direct staff to expand the existing Convening Committee to a facilitated watershed working group to make recommendations regarding all water quality issues and actions

in all five watersheds, including identifying other issues to be referred to the Independent Scientific Review Panel.

5. The Regional Water Board recognizes that their Executive Officer has existing delegated authority to take any actions that she deems appropriate.

After meeting with and receiving input from the both the initial and expanded Convening Committee, the Terms of Reference (TOR) were developed and finalized by Regional Water Board staff and CONCUR on August 6, 2002, and is provided in Attachment 1. At the same time, staff worked with CONCUR to identify and contact the members under consideration for the Independent Scientific Review Panel (Panel). Members of the expanded Convening Committee (list of members is included as Attachment 2) were invited to propose selection criteria as well as potential candidates for the Panel. They were then asked to offer feedback on the suitability of candidates based on the following jointly developed, consensus-based selection criteria outlined in the TOR: 1) technical capability in their respective disciplines plus an ability to work across disciplines; 2) objectivity, as reflected by their willingness and ability to integrate diverse viewpoints; 3) ability to work collaboratively; 4) track record of science advising for environmental decision-making; 5) availability; 6) experience evaluating cumulative watershed effects in a forested setting; 7) proven track record of meeting deadlines; 8) experience with practical application; and 9) broad acceptability by the stakeholders. By Regional Water Board direction, the final selection of the panel members was to be the responsibility of the Regional Water Board staff.

As part of their ongoing mediation efforts, the Convening Committee members developed a list of panel candidates who would meet the above criteria. The list was lengthy, and many of the candidates were dismissed outright from further consideration because of past contacts with some of the parties involved in these matters. While staff fully recognized that all the candidates proposed for consideration are professionals and could be objective and non-biased, staff endeavored to avoid any appearance of bias as a result of a candidate's prior involvement with any stakeholder or interest group. In some cases, representatives of residents and environmental groups rejected a candidate, and in some cases representatives of PALCO rejected a candidate. PALCO did not object to several of the seven final Panelists, did object to one, and did not express a position on the others. PALCO's and other stakeholders' stated objections were seriously considered, but staff ultimately determined that the membership of the Panel was appropriate, represented considerable expertise in the needed disciplines, and would result in unbiased and independent deliberations. In the end, staff selected candidates with sound understanding in Hydrology, Hydraulics and Fluvial Geomorphology, Aquatic Ecology/Fisheries Biology, Civil Engineering/Water Quality, Geotechnical/Slope Stability, Restoration Ecology, and Forestry/Silviculture, even where the Convening Committee did not unanimously endorse the candidate. The final Panel selected by the Regional Water Board staff, including their affiliations and expertise, is shown in Table 2 of the Panel report, and their curriculum vitae are included as Attachment 3. The Panel was officially appointed on August 10, 2002, and began communication and deliberations by email and conference calls during the August - October 2002, time frame.

On October 7, 2002, a Supplemental Terms of Reference document was produced by Regional Water Board staff and CONCUR, as a result of the Panel's ongoing deliberations and feedback. The Panel sought clarification of a number of issues, including timelines, work programs, panel

communication with authors of technical reports, interactions with stakeholders, etc. The Supplemental TOR is included as Attachment 4.

In a letter to the Regional Water Board's Executive Officer, dated October 17, 2002, PALCO questioned the fairness, balance and scientific soundness of the Panel. Their letter is included as Attachment 5. This letter raises the following issues: (1) the Panel's task is too narrowly focussed, and the information provided to the panel is too one-sided; (2) the timeline for the panel is unrealistic; (3) the Panel members spent more time during their site visit with the "opposing" side than with their representatives; (4) Clarification is needed to ensure it was understood that PALCO objected<sup>3</sup> to one panel member specifically, and did not offer objections to other panel members. The Regional Water Board staff's response to this letter is enclosed as Attachment 6.

CONCUR was responsible for the structure, interactions and work efforts of the Panel. Regional Water Board staff's interaction with the panel, as designed to comply with the Regional Water Board's direction, was in arranging payment for services rendered, providing technical documents and maps as background information, locating and distributing other documents at the Panel's request, assisting in scheduling the site visit, and providing other logistical support. Regional Water Board staff did not receive any pre-review drafts and consequently did not provide comment on any portion of the Panel's report. Staff did not screen or otherwise modify any of the comments from the Panel.

On December 27, 2002 Regional Water Board staff received a pre-release copy of the "Final Report on Sediment Impairment and Effects on Beneficial Uses of the Elk River and Stitz, Bear, Jordan and Freshwater Creeks" (Report) prepared by the Humboldt Watersheds Independent Scientific Review Panel (Panel).

Based on a review of the Terms of Reference (TOR) developed to define the Panel's role and responsibilities, the California Geologic Survey, the California Board of Forestry and Fire Protection Professional Foresters Registration, and the Board for Professional Engineers and Land Surveyors expressed concern relative to the potential for the Panel to engage in activities that may require Panel members to hold a professional license or registration issued by the State of California to complete the tasks described in the TOR. These concerns are expressed in the letters included as Attachment 7.

To address this issue and to ensure that the appropriate licensure was in place prior to release of the Report to the public, Regional Water Board staff with the necessary licenses or registration issued by the State of California reviewed the Report. After a thorough review, Regional Water Board staff determined that the Report investigated the questions posed to the Panel in the TOR in a manner consistent with the State of California professional codes for the respective disciplines (i.e. registered professional forester, certified engineering geologist and professional engineer). They further found that the Report relied on and employed techniques in accordance with practices generally accepted by other scientists, engineers, and foresters practicing under

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<sup>3</sup> CONCUR can report best on objections that arose during the Convening Committee deliberations, including PALCO's comments and objections, on composition of the Panel. Staff's understanding was that 4 members were acceptable to the Convening Committee, and PALCO objected to one member while others in the Convening Committee objected to two different members.

similar conditions in California. On January 6, 2003, Regional Water Board staff prepared and stamped a memorandum to the Regional Water Board Executive Officer providing the necessary licensure. This memorandum was included as a preface to the Report to ensure that the appropriate stamps (e.g. licensee name, number and signature) remain with the Report to address the licensing agencies' concerns (memo and Report are included as Attachment 8).

In the week before the public release of the document and as part of their review, Regional Water Board staff involved in reviewing the Report to address California licensing needs noted a few minor typographical errors in the Report. These errors were reported to CONCUR for correction before public release of the Report.

The Report was distributed to a wide list of interested parties on January 7, 2003. The Report was also posted on the Regional Water Board web page at <http://www.swrcb.ca.gov/rwqcb1/>.

CONCUR will give a full presentation on the background, selection, convening and structure of the Panel at the January Regional Water Board meeting. Several members of the Panel will also present the key findings from the Report at the Board meeting as well.

### Discussion

The Report makes a number of important observations and findings. Among the most important, while perhaps the most general, is the discussion on the relationship between science and policy. The Report identifies the increasingly important role scientists perform in assisting policy-makers in forming science-based decisions. The Report, page 11, enumerates five criteria put forth by Mills et al. (2001; enclosed as Attachment 9), which relate to the appropriate role for scientists' involvement in science-based decision making. A summary of the five criteria are as follows:

- Focus the science on key issues and communicate it in a policy-relevant form.
- Use scientific information to clarify issues, identify potential management options, and estimate consequences.
- Clearly and simply communicate key science findings to all participants.
- Evaluate whether the final policy decisions are consistent with the science decisions.
- Avoid advocacy of a particular policy outcome.

As the Report states on page 11, "All of these criteria are designed to maintain the credibility of scientists involved in policy issues and avoid 'advocacy science.'" Regional Water Board staff have reviewed the Report and believe the Panel members were successful in accomplishing the five criteria--the Panel Report does not recommend that the Regional Water Board adopt any policy outcome. Rather, the Report recommends that the Regional Water Board should include the Report along with other appropriate<sup>4</sup> information to formulate regulatory policy in the five watersheds.

Some of the key findings presented in the Report include:

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<sup>4</sup> The Panel emphasizes the need to use peer-reviewed information.

- A strong possibility exists that peak flows from early fall storms or from smaller storms would be increased to the point where flood frequency and magnitude is increased in areas where a high proportion of a watershed is recently clearcut and road surface areas are substantial (pages 22, 23).
- Sediment and peak flows can be reduced by decreasing the rate of harvest, avoiding practices that result in excessive ground disturbance, promptly restoring disturbed soil areas, and stabilizing landslides (pages 3, 22, 23, 24, 31, 32).
- Harvest rates can be set to allow adjustments over time, based on developing information (pages 3, 17-22, 24, 27, 31, 32, Appendix C).
- Spreading the harvest activities among different watersheds so that cutting is not concentrated within one watershed over a short time will help reduce peak flows and sedimentation (pages 14 -15).
- A conservative approach to timber harvest would limit the rate of harvest until short-term effects of harvesting and mitigation measures can be demonstrated through monitoring. A more aggressive timber harvesting strategy would be based on an acceptance of the claims of the effectiveness of the mitigations as outlined in the THP and HCP and allow higher rates of harvest, while also acknowledging that timber harvest may negatively impact the unstable setting in the five watersheds (page 10).
- CDF's current process for assessing harvest rates will not achieve recovery of beneficial uses of water in the impaired streams (page 18).
- The recovery time for impaired streams is lengthened where recovery is interrupted by a new set of impacts when shorter timber rotation cycles are used (page 31).
- Mitigation offsets of sediment production proposed in THPs leads to an overestimate of the amount of sediment which is actually saved (pages 15-17).
- The THP-SYP-HCP structure lacks some key elements needed to ensure attainment of water quality standards, especially from cumulative watershed effects (page 15).

The report in general confirms the Regional Water Board staff's approach for developing TMDLs for Freshwater Creek and Elk River and for evaluating potential impacts to water quality from proposed timber harvest activities in the impaired watersheds.

#### Regional Water Board Staff Recommendations

The Report recommends the use of a specific approach and provides the scientific rationale to support the Regional Water Board and its staff's actions to take both short-term and long-term actions relative to active and future timber harvest operations in the five watersheds. Some of these actions would most appropriately be implemented at the broadest watershed level prior to and as part of the TMDL process. Other actions should be implemented at the individual timber harvest plan (THP) level. Still others should be at the Agency level in discussion with the CDF and the Board of Forestry (BOF) liaison committee, perhaps through changes to the existing Management Agency Agreement (MAA) or through the proposed memorandum of understanding (MOU) between CDF and the Regional Water Board.

At the watershed scale, Regional Water Board staff recommends:

1. The development of an interim timber harvest rate based on the Empirical Sediment Budget approach developed by Dr. Leslie Reid (1998 and 2000) and as refined and presented by the Panel in their Report.
2. Require submission of the information necessary to refine the Empirical Sediment Budget approach to consider different sediment input rate factors from different land classes.
3. Develop a staff GIS database to easily refine harvest rate estimates.
4. Ensure development as part of the phased TMDLs, the quantitative data needed to provide the watershed specific data (e.g. rainfall, sediment erosion rates for various physical processes, etc) required to use the Modeled Sediment Budget approach develop used by Dr. Matt O'Connor.
5. Develop monitoring programs to evaluate Best Management Practices as part of waste discharge requirements (short term less than 6 months) and TMDLs (long term greater than six months).
6. Encourage adaptive management to re-evaluate any interim rate of harvest (as would be envisioned as part of a phased TMDL approach).
7. Determine whether existing waste discharge requirements should be revised and/or waivers reconsidered to incorporate information from a new report of waste discharge to address the interim harvest rate.
8. Pursue the development of suspended-sediment streamflow rating curves for the five watersheds, as well as for surrogate undisturbed watersheds of similar characteristics.
9. Develop Phase II of the Independent Science Review Panel effort by working with the facilitated working group and CONCUR to frame a second TOR to address additional issues which arise in discussions of the Report and which will facilitate development of the TMDLs.

At the timber harvest plan scale, staff recommends:

10. Request the plan submitter to address the accuracy of the sediment off-setting mitigations proposed in individual THPs via a well designed monitoring program, which includes quality control and assurance programs.
11. Ensure monitoring is conducted to develop quantitative data related to the plan to determine effectiveness of measures to protect water quality.
12. Request that CDF require the independent science based peer-review of watershed assessments prior to approval of plans where TMDLs have been developed for sediment impairment, but no implementation plan yet exists.
13. Non-concur with those plans where timber harvest practices result in excessive ground disturbance are proposed or the plan otherwise does not contain sufficient protections to preclude cumulative effects in the five sediment impaired waterbodies.

At the Agency level, staff recommends:

14. Request discussion with CDF of the findings in the report.
15. Meet with the State Water Board staff involved in the MAA and MOU negotiations and discuss the findings of the report, and the best mechanisms to address the findings and ensure recovery of beneficial uses of water in impaired waterbodies.
16. Staff could request that the HCP signatory agencies address the findings of the report as part of adaptive management concepts contained in the HCP.



PRELIMINARY STAFF  
RECOMMENDATION:

No action is required at this time, but the Regional Water Board may provide direction to staff on future activities. Staff currently plans to implement as many of the 16 recommendations above as resources allow.